1

Introduction and Background

The importance of ground water as a source of supply for human consumption, agriculture, and industry and for maintaining surface water ecosystems is now evident. More than 50 percent of the nation's drinking water supply and 80 percent of its rural domestic and livestock water needs are supplied by ground water. According to the U.S. Geological Survey (USGS, 1984), ground water use increased from about 35 billion gallons per day in 1950 to about 87 billion gallons per day in 1980. Withdrawals were expected to approximate 95 billion gallons per day in 1985. This quantity represents about one fifth of the fresh water usage in the nation, the other four fifths being from surface water sources. In contrast, there is approximately 50 times more ground water available at any given time in the United States than there is surface water. The current rate of ground water withdrawal represents approximately 10 percent of the estimated available flow-through of ground water in all aquifers. However, there are many local areas where ground water has been overdeveloped and is being withdrawn at rates in excess of natural replenishment, i.e., mined. During the past decade, growing public concern about ground water quality has resulted from an increasing number of cases of significant contamination or degradation.

In response to these developments, the Congress has enacted several laws that are designed to regulate toxic wastes and substances that are major sources of ground water contamination and to correct some of the most serious contamination problems. These laws include the Safe Drinking Water Act (underground injection wells), the Resource Conservation and Re-